

Appl. No. 10/705,572
Docket No. 8681RCR
Amdt. dated 8 July 2008
Reply to Office Action mailed on 9 January 2008
Customer No. 27752

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CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-6. (Cancelled)

7. (Previously Presented) A filter for providing potable water, comprising:
- (a) a housing having an inlet and an outlet; and
 - (b) a filter material disposed within said housing formed at least in part from a plurality of filter particles consisting of mesoporous activated carbon, wherein at least a portion of said plurality of filter particles is at least partially coated with silver or a silver-containing material, and wherein:
 - (i) the sum of the mesopore and macropore volumes of said filter particles is between about 0.2 mL/g and about 2 mL/g; wherein mesopore means an intra-particle pore having a diameter between 2 nm and 50 nm, and macropore means an intra-particle pore having a diameter greater than 50 nm;
 - (ii) the total pore volume of said filter particles is greater than about 0.4 mL/g and less than about 3 mL/g; and
 - (iii) the ratio of the sum of the mesopore and macropore volumes to the total pore volume of said filter particles is greater than about 0.3;

wherein said filter is operable to remove microorganisms from water flowing into said inlet and out of said outlet; and

wherein said filter has a Filter Bacteria Log Removal of greater than about 2 logs and a Filter Viruses Log Removal of greater than about 1 log.

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8. (Previously Presented) The filter of claim 7, wherein the sum of the mesopore and the macropore volumes of said plurality of filter particles is from greater than 0.4 mL/g to about 2 mL/g.
9. (Previously Presented) The filter of claim 7, wherein said plurality of filter particles has a Bacteria Removal Index of greater than about 99% and a Viruses Removal Index of greater than about 90%.
10. (Cancelled)
11. (Original) The filter of claim 7, wherein said filter material has a single-collector efficiency, η , of between about 0.005 and 0.25, and a filter coefficient, λ , between about 40 m^{-1} and about $14,000 \text{ m}^{-1}$.
12. (Previously Presented) The filter of claim 7, wherein said plurality of filter particles are basic and have a point of zero charge between about 9 and about 12, an Oxidation Reduction Potential between about 290 mV and about 175 mV.
13. (Previously Presented) A filter for providing potable water, comprising:
 - (a) a housing having an inlet and an outlet; and
 - (b) a filter material disposed within said housing formed at least in part from a plurality of filter particles consisting of mesoporous activated carbon and other materials selected from the group consisting of activated carbon powders, activated carbon granules, activated carbon fibers, zeolites, activated alumina, activated magnesia, diatomaceous earth, activated silica, hydrotalcites, glass, polyethylene fibers, polypropylene fibers, ethylene maleic anhydride copolymers fibers, sand, clay and mixtures thereof, wherein at least a portion of the other materials are coated with silver or a silver-containing material, wherein:

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- (i) the sum of the mesopore and macropore volumes of said filter particles is between about 0.2 mL/g and about 2 mL/g; wherein mesopore means an intra-particle pore having a diameter between 2 nm and 50 nm, and macropore means an intra-particle pore having a diameter greater than 50 nm;
- (ii) the total pore volume of said filter particles is greater than about 0.4 mL/g and less than about 3 mL/g; and
- (iii) the ratio of the sum of the mesopore and macropore volumes to the total pore volume of said filter particles is greater than about 0.3;

wherein said filter is operable to remove microorganisms from water flowing into said inlet and out of said outlet; and

wherein said filter has a Filter Bacteria Log Removal of greater than about 2 logs and a-Filter Viruses Log Removal of greater than about 1 log.

14. (Previously Presented) A kit comprising:
- i) a filter according to claim 7; and
 - ii) a package for containing the filter;

wherein either the package or the filter housing comprises information that the filter or filter material provides: bacterial removal; virus removal; microbial removal; killing of bacteria, killing of viruses, killing of microbials, or any combination of these.

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15. (Previously Presented) A kit comprising:
- i) a filter according to claim 13; and
 - ii) a package for containing the filter;

wherein either the package or the filter housing comprises information that the filter or filter material provides: bacterial removal; virus removal; microbial removal; killing of bacteria, killing of viruses, killing of microbials, or any combination of these.

16. (Cancelled)
17. (Previously Presented) A process for providing potable water, comprising passing contaminated water through the filter of claim 7 to provide potable water.
18. (Previously Presented) A process for providing potable water, comprising passing contaminated water through the filter of claim 13 to provide potable water.
19. (Previously Presented) The filter of claim 8, wherein the sum of the mesopore and macropore volume of said filter particles is greater than about 0.4 mL/g and less than about 1 mL/g.
20. (Previously Presented) The filter of claim 7, wherein the total pore volume of said filter particles is greater than about 0.4 mL/g and less than about 2 mL/g.
21. (Previously Presented) The filter of claim 7, wherein the pore volume is at least 0.03 mL/g for pore diameters between about 4 nm and about 6 nm.
22. (Previously Presented) The filter of claim 7, wherein said filter has a Filter Bacteria Log Removal of greater than about 4 logs, and a Filter Viruses Log Removal of greater than about 2 logs.

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23. (Previously Presented) The filter of claim 22, wherein said filter has a Filter Bacteria Log Removal of greater than about 6 logs, and a Filter Viruses Log Removal of greater than about 4 logs.
24. (Previously Presented) The filter of claim 7, wherein said filter has a single-collector efficiency, η , of greater than about 0.002.
25. (Previously Presented) The filter of claim 7, wherein said filter particles are wood-based activated carbon particles having a Brunauer, Emmet, and Teller (BET) specific surface area between about 1,000 m²/g and about 2,000 m²/g, a total pore volume between about 0.8 mL/g and about 2 mL/g, and the sum of the mesopore and macropore volumes is between about 0.4 mL/g and about 1.5 mL/g.